TYPES OF REINFORCEMENT IN BLACK CHILDREN
RELATIVE TO INTELLIGENCE AND POPULAR
PREFERENCE AS THE DETERMINATE OF PLAYING

By

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Abstract of Dissertation Presented to the Graduate Council
of the University of Florida in Partial Fulfillment
of the Requirements for the Degree of Doctor of Philosophy

ACADEMIC PERFORMANCE OF BLACK FRESHMEN
ADMITTED TO COMPENSATORY AND REGULAR
PROGRAMS AT THE UNIVERSITY OF FLORIDA

By

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December, 1972

Chairman: Dr. James L. Wattenbarger
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This study proposed into the academic performance of 241
black students admitted to the University of Florida in 1970,
because they did not meet the admission requirements, 63 of
the students had been assigned to the Expanded Educational
Opportunities Program (EEOP) - a compensatory education pro-
gram, designed to test whether students whose qualifications
fell below the required standards for admission would with
special assistance succeed at the University of Florida.

Specifically the study sought the answers to the
following question: (1) Are there significant differences
between black freshmen making satisfactory academic progress
and black freshmen making unsatisfactory academic progress?
and, (2) How well have black students, assigned to the
compensatory program, performed academically as compared to
black students admitted to the regular academic program?
Indirectly, the study sought to evaluate the usefulness of

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the compensatory education program in attempts to measure performance.

Independent variables included (1) participation in the compensatory ed program program, (2) high school grade-point average, (3) Florida Twelfth Grade Test score, (4) productive time integrated or non-integrated high school, (5) sex, (6) marital status of parent, and (7) family income. The dependent variable was the overall grade-point average earned at the University of Florida after three quarters. Students with an overall grade-point average of 2.0 or higher were considered to be making satisfactory academic progress. Students with an overall grade-point average of 1.9 or lower were considered to be making unsatisfactory progress.

The statistical treatments employed were a factorial analysis for two groups using the Biomedical Computer Program, BMD08, and a multiple regression analysis using the Biomedical Computer Program, BMD02.

No significant differences were found between the two groups of black freshmen. For all practical purposes, the group making satisfactory academic progress and the group making unsatisfactory academic progress came from the same population. To a limited extent the two groups could be differentiated on the basis of high school grade-point average, an independent variable which was also found to have the strongest relationship to grade-point average earned at the University

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of Florida. The findings of the study showed that for this particular group of black students the variables selected had little relationship to academic achievement. The findings also suggested that variables in addition to those selected will need to be investigated to learn more about the academic performance of black students at the University of Florida.

The results of the analyses brought into question (1) the relevance placed on the Florida Twelfth Grade Test as a means of selecting black freshmen for either the compensatory or the regular academic programs and (2) the usefulness of the compensatory education program. Furthermore, the reaching of conclusions in regard to the actual level of academic achievement attained by the students in the compensatory education program was made difficult by differences in grading practices.

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# CHAPTER I

## INTRODUCTION

In 1964, the Educational Policies Commission of the National Education Association declared the time had come for accepting the idea that universal opportunity also applied to education beyond the high school. With the enactment of the Higher Education Act of 1965, the Congress committed this nation to that goal.

The ideal of equal opportunity for higher education for all Americans, regardless of race or economic circumstances, is slowly gaining acceptance but a century of separate and inferior education for Black Americans has created a significant disparity which has generated Black students from holding admission to higher education, especially to colleges and universities with predominantly white students.

To overcome this disparity is difficult task. Nevertheless, colleges and universities should be committed, broadly and socially, to insure that access to higher education is not restricted because of race, color, or other background. Toward the fulfillment of this goal, the Southern Regional Education Board's Commission on Higher Education (1967) commended to the educational leaders in the South

that "immediate steps . . . , be taken to help Negro college students overcome the handicaps of educational disadvantage and cultural deprivation" (p. 1).

In 1970, the administration of the University of Florida took a step toward this goal when it admitted 141 black students, 31 of whom did not meet the minimum requirements for admission. These 31 students were enrolled in the Expanded Educational Opportunities Program (EEOP)--a compensatory education program designed to test whether students whose qualifications fell below the expected standards for admission, could with special assistance, succeed at the University of Florida (for a description of the EEOP program see Appendix A).

Most of the 141 black students came from low income families. Their educational achievements were such that when measured by traditional standardized instruments, the results would ordinarily have prevented them from serious admission to the university campus of the State of Florida.

To prepare the students in the compensatory program for matriculation in the regular college programs of the University of Florida, special services were provided throughout the freshman year such as tutoring, counseling, reading assistance and curriculum assistance.

With the inception of this project, the administration and faculty of the University of Florida assumed the opportunities for higher education in disadvantaged and minority

to minimize offspring _____ a clear conscience when compensatory _____ subjected to assist Black students.

## Blackness and Inferiority

Related _____ as stressed will be discussed under four main headings: _____ Black students in Higher Education, (1) the role of _____ in Compensatory Programs, (2) Academic Retardation and Performance of Black Students in Higher Education, (3) the IQ of Black Students in the new _____ of Physical _____.

### Black Students in Higher Education

In 1969, the Bureau of the Census reported that the percent of Non-white males completing high school had risen from 36 to 43 during the period of 1940-64. For non-white females the increase was from 41 to 45 percent. In spite of the rise in the number of black high school graduates, Coleman et al. (1964) reported that black students accounted for only 4.3 percent of the college population even though Black Americans comprise about 11 percent of the population in the United States. Bowles (1964) stated that approximately half of these black students attended predominantly black colleges and the other half was enrolled mostly in junior colleges and other relatively non-selective institutions. In April of 1969, the Chronicle of Higher Education published enrollment figures by race which showed that

approximately 77,000 black students were enrolled in institutions which indubitably have been the predominance of white students. This amounted to about 3 percent of the nationwide total enrollment (Ogutu, 1969). Some progress is noted in a recent report released by the U.S. Bureau of the Census (1973). It shows that enrollment of black students in 1972 rose to 9 percent.

In 1950, the Supreme Court upheld the segregation of black students as publicly supported graduate schools illegal. What then ever meant is its declared public school segregation illegal, ". . . state institutions were locally on their way to being open to all segments of race . . ." (Gordon, 1971, p. 116). But it was not until after Sputnik I was launched in 1957, that through the National Defense Education Act resources became available for the discovery of "talent." This, according to Gordon, opened professionally where universities to begin viewing minority groups, and especially black communities, as fruitful fields for recruiting academically superior students.

Gleim was then, however, to encourage and assist poorly prepared students to overcome academic deficiencies imposed on them by a stifling environment over which they had no control. Reader and Wilkerson (1966), as well as Casteg and Horrocwe (1973) have outlined the National Scholarship Service and Fund for Negro Students (NSSFNS) for encouraging colleges and universities to start planting

emphasis on financial aid for poor and underprivileged and in
part through the establishment of discretionary programs for
disadvantaged students. The Board accepted flank college students
in the belief that a substantial proportion of higher Educational
opportunity in the United States was the result of equal oppor-
tunity even to people of equality for all Americans, regard-
less of race, color, or religion. "Higher educational
institutions must provide remedial and compensatory programs
for disadvantaged students (and) public school provision
between truly equal the students of all backgrounds" (Com-
mission on Higher Educational Opportunity in the South, 1967,
p. 36). The Board recommended that each senior college and
university adopt a "high risk" quota for the education of
disadvantaged youth.

Traditionally, college admissions has served as a
screening based on intellectual achievement and promise.
Whereas (those) granted had, however, this most of the real
sophomores had all along been done by the standards of
socioeconomic status, early environment, and the various
levels of explicitness historically characterizing particular
groups and subcultures. For instance, colleges and uni-
versities accepted the "rest of ability" concept—the
belief that higher education was the prerogative of only a
small fraction of high school graduates drawn widely from
the well-to-do classes.

The determining factors that control entry into
higher education are rooted in the home and

local development of children from infancy on, expressed no zeal for "Froebelism" on the part of children and demonstrated little sensitivity to individual needs or a significant effort to prepare the school-aged children for the demands of the academic "first grade" to follow. He suggested that there was a need for health-promoting programs that ... existed for "the harder classical brouhaha" of kindergarten. (Thorndike, 1916, p. 4)

Whitbeck referred to studies done by Hollingshead (1924) and Keefe (1928) which showed that "classes" could not supply be their ... it had to be accepted as, helped, and personalized. The readiness of operations[?] as a large extent determined who sent to college and above (Thorndike, 1966, p. 12).

## The Issues and Irrony of Compensatory Programs in Early Education

Compensatory education is a term which refers to programs directed at overcoming or circumventing assumed deficiencies in the background, flexibility, and sometimes experiences of youngsters from economically deprived, culturally isolated, and/or otherwise segregated families (Bayker and Johnoverby, 1916). The development of such programs on the expansion of American colleges and universities is a relatively recent phenomenon. Among the social forces driving improve to this development, Yordon and Wilkerson (1966) mentioned the growing need for educated manpower, increasing awareness of the civil rights movement, new conceptions of the educability of the "lower classes," and philanthropic stimulation and support. In addition, the millenium of minority educators already enrolled in

universities, the administration and faculties. In

in 1969, the transgression schools institution to direct

responsibility to serve resources and of [unclear],

and the dramatic rise of responsibility in junior [unclear]

who now graduate from top universities (Gordon and Wilkerson

and Atkinson (1976) so most important faculty preoccupation

to the area of compensatory education.

Harrison and Ferrante (1971) identified two major

categories of compensatory education programs and prac-

tices: (1) those that served disadvantaged students in

existing institutions of higher learning, and (2) those

that help them succeed in academic and occupational-oriented

programs once they have been enrolled. Gordon and Wilker-

son (1966) defined compensatory practices and programs:

> A continuing activity by the institution that
> helps disadvantaged students who could not
> otherwise do so to enroll and complete an
> educational or a . . . broad occupational
> practice. . . . An expanded range of related
> activities is the same end or . . . broad
> compensatory program. . . . (p. 138)

In their efforts to assist disadvantaged and minority

students, colleges and universities have engaged in a

variety of programs and practices. Kendrick and Thomas (1970)

listed the following: honors-preadmission programs, reduced

curriculum, remedial courses, tutorial assistance, guidance

and counseling, extended length of time to meet graduation

requirements, and financial assistance. These are but a few

of why elements that have been employed either simply as an inducement to meet the needs of disadvantaged and minority students.

Gordon and Wilkerson (1966) published the results of an extensive survey of the nature and distribution of compensatory practices among colleges and universities in the United States. Of the 3,993 institutions canvassed, 919 responded representing 28.6 percent of the 2,131 colleges and universities in the 50 states and the Districts of Columbia (pp. 182-4). They found that the acceptance of higher education showed little or no concern for youth with educational handicaps born of poverty and discrimination. Moreover, it was noted that only 36.3 percent of the responding institutions had begun some form of compensatory programs and practices but that most of these seemed to fit ". . . the somewhat dreary pattern of remedial courses which have grouped away accretions of low-achieving students with but little benefit to most of them" (p. 189).

A similar survey of 447 higher education institutions in five Midwestern states done by Scranton (1970) showed that of the 312 institutions which responded, only 21 percent had some form of compensatory practice or program for disadvantaged students. Most of these had been undertaken within the past two years and were found in institutions with less than 5,000 enrollment.

The major [illegible] introduction has been made by [illegible] of [illegible] of demonstration (Hamilton, 1973). [illegible] [illegible] several [illegible] currently approximately 50 percent of [illegible] students in four-year programs [illegible] at [illegible] at the four-year private university systems [illegible] comparatively [illegible] private universities served remained. Conse-quently, research is not surprising [illegible] effectiveness of comprehensive [illegible] in Connecticut where institutions is limited in passing and [illegible].

In reviewing the [illegible] related research, Kendrick and Thomas (1970) noted that studying comprehensive practices and programs seemed to be making little impact in stabilizing the problems at disadvantaged students, the majority of colleges and universities had not accepted this as their role. Al-though in his 1969 message to Congress on education, President Johnson considered it a triumph of American democracy that 50 percent of high school graduates were going on to college, Spurlock (1964) found that in only one year more than 40.1 percent of low SES institutions responding in his survey had instituted programs for the disadvantaged. He observed that the question which held his attention of university ad-ministrators and faculty was not how to proceed with effec-tive programs for the disadvantaged, but whether they should become so engaged.

Opposition to postsecondary education on the college level has centered around several issues. One is that on the argument that minority students are not prepared and will not succeed in college, easier is found on the feeling that acceptance of high risk students will lower an institution's standards and will reduce its quality of education (Ehani, 1978). Both Gordon (1960) and Roeper (1983) have argued that the compensatory programs to be successful, the nature and cause of poor school performance must be understood and that it is unwarranted to assume that past performance of disadvantaged youngsters is a direct function of ability. Gordon (1960) believes that where compensatory programs have failed, there has been no recognition of the relationship between readiness of life, characteristics of the learner, and success in the teaching - learning process. Opponents of compensatory programs have tried to help disadvantaged students by giving them more of what seems to work in elementary middle and upper class youth.

What the literature reveals is a willingness on the part of college and universities to recruit "qualified" black students but a reluctance to commence with special programs aimed at helping youngsters overcome the disadvantages carried by their environment. Plotz (1978) has pointed out the contradiction in granting admissions and financial aid to students who have excellent grades and are also economically deprived for "what we are insisting upon

In that the highest demonstrate exceptional merit despite his environmental inadequate dust, admonance disregard family life, managed self-esteem, and very little encouragement[p. 11]. When the white middle-class student enters to college he has a natural advantage by virtue of his exposure to a college-oriented environment. He has undergone what Morton (1965) has referred to as "anticipatory socialization." Guntzevitcaller (1971) emphasized the white middle class and the black disadvantaged college-bound students. He argued that the state student, in his early internship with parents, peers and teachers has internalized the rudiments of the role he will be expected to play upon entering college. This, however, is not the case with the black disadvantaged student because whatever cultural advantages he may enjoy, they have little relevance to the demands of the academic environment[p. 9]. If ordinary and exploitation can maneuver an unvarying black disadvantaged students to cope with institutional demands and to help them overcome the alienating effect of the impersonal, white middle class institution, attention must be given to the special needs of these students requiring special remanding opportunities(Guntzevitcaller, 1971).

Exclusion has been invoked by black students, black leaders, and black college officials at the traditional ways in which applicants for admission to institutions of higher learning have been selected. They have challenged the use

of standardized tests to determine the need for [illegible]
(Davis and Temp, 1971). One of the [illegible] demands presented
to Duke University administrators by the Afro-American
Society in February, 1969, was that academic achievement be
high indeed be the only criterion for black students' admission to that university (Davis and Temp, 1971).

## Academic Prediction and Performance
## of Black Students in Higher Education

Access to higher education has traditionally been determined by the quality of past scholastic performance. High school grades and entrance examinations have been the traditional means by which past scholastic performance has been measured. The validity of high school grades and test scores to predict academic performance in college has been the subject of considerable research (Chase and Pugh, 1961; Lavin, 1965). A positive correlation of .30 or higher has been considered sufficient evidence of a positive degree of relationship (Wilkey, 1964).

As early as 1917, Lincoln explored a correlation of .65 between high school grades and college performance. A number of later studies seem to indicate that the quality of work done in the secondary school as a better predictor of academic success in college than scores received on entrance examinations. Lincoln's findings supported those of Thorndike, in whom he referred in his

rapid, and where a certain proportion of pupils passed out of existence upon being dismissed, measures of performance as inspected. Thereafter was spoken of lemons to have remaining(?) loss.

There is ample space to believe that as the students . . . who went out not a fairly large(?) proportion [would?] seem to prove that those of those who were admitted, human of those(?) in time(?) will be several thousand and will be different as to . . . the exact majority to reach funeral for college Re [under] a system . . . . Bloxon(?), 1915, p. 412(?), would

Since 1917, there have been hundreds of studies concerned with predicting academic success in college. In all of these, high school grades have consistently been found to relate positively to academic performance in college with correlations reported from as low as .20 to as high as .65 with a median value of .58 (Segel, 1934; Wolkinson, 1939; Crawford, 1949; Travers, 1949; Garrett, 1949; Mills, 1964; Bhatky and Porter, 1967; Richards and Lutz, 1967; Hoyns and Munday, 1968; Munday, 1970).

Notwithstanding Thorndike's criticism, standardized measures of aptitude and achievement have been found to correlate positively with academic achievement in college although not as high as grades. Correlations reported range from .25 to .45 with a median value of .50 (Garrett, 1949; Mills, 1964; Bohrlich, 1965; Frederen, 1965, 1967; Hewahy and Porter, 1967; Richards and Lutz, 1968; Coppedge, 1969; Munday, 1970).

It has been found that academic prediction is improved when using high school grades in combination with standardized

test scores resulting in multiple correlations with an
average of .65 (Hills, 1963; Lavin, 1965; Stanley and Porter,
1967; Munday, 1970). Researchers have also found that women
are more predictable academically than are men (Seashore, 1962;
Stanley, 1967; Stanley and Porter, 1967).

The questions which has received considerable attention
during the past two decades is whether or not predictors of
academic achievement have the same validity for members of
minority groups, especially Black Americans, whose educational
background and opportunities have been severely restricted
(Pfeifer et al., 1964; Stanley, 1969; Epps, 1969; Thomas
and Stanley, 1969; Kemp, 1971; Stanley, 1971).

Out of this has evolved much debate and some research
to determine whether or not such standardized measures as
the Scholastic Aptitude Test (hereafter referred to as the
SAT) and the American College Test (hereafter referred to as
the ACT) are biased against Black students (Hill, 1963;
Kendrick,1964b; Cleary and Hilton, 1967; Cleary, 1968;
Davis and Temp, 1971).

Much students and educational leaders believe that
standardized prediction of academic success are oriented to-
ward white, middle-class students, and are inadequate for
determining the potential of Blacks (Davis and Temp, 1971).
Roble (1968) discussed cultural bias in intelligence tests
and stated that some assume that measures of scholastic
aptitude not only for students in schools designed for the

white dental races— ... .... review, Dreifrith (1764-65) scroll ... ... .... ... to posit that children who are culturally not ... .... .... and probably under-estimated using common tools by adults and by tests that adults devise ... ... ... ... it would best it was " . . . extremely important that we critically through investigation be made to determine whether or not the total environment of the candidate over the years interviews a responsive that the test does not list the student" (p. 4).

Bellamy and Scan, Cleary (1968) stated that " . . . the test is biased if the criterion scores predicted from the common regression line is consistently too high or too low for members of the subgroup" (p. 112). Studies done at Morgan State College and Jenkins (1964) to ascertain that scholastic aptitude and achievement tests have low validity for the and groups of racial/cultural minorities background. This was further investigated by Cleary and Hilton (1969) who studied the varieties of Preliminary Scholastic Aptitude Test (PSAT) scores of students of different racial and socioeconomic groups and by Cleary (1968) who studied the regression of college grades on the SAT for black and white students in integrated colleges. In the first study, large samples of black and white students were used from seven integrated schools in three large metropolitan areas. The purpose of that investigation was to learn (1) whether test items were equally difficult for all groups, (2) whether the

group mean scores (does differ) by groups, and (3) whether both group means and relation scores on individual items change as a function of race, socioeconomic standing within race, or both. It was concluded that the 1967, for practical purposes, one set biased by the groups studied.

In the second study, Cleary (1967) investigated the possible bias of the SAT in predicting academic performance of black students in three integrated colleges. Data were collected from two Eastern colleges and one Southwestern college. Subjecting these data to an analysis of covariance, it was found that there were no significant differences in prediction for black and white students from the Eastern colleges. At the Southwestern college, however, it was found that the college grades of black students tended to be overpredicted by the use of the whole or common regression lines. Similar results were obtained by Pfeifer and Sedlacek (1971) at the University of Maryland. Black students were overpredicted and it was suggested that analyses be conducted when using predictor equations based on predominantly white students.

Kallingal (1971) and Temp (1971) replicated Cleary's study and obtained similar results. Kallingal found the regression equations of engineers more negative predictor criterion versus on how ability and achievement test scores for blacks and whites at Michigan State University showed significant differences. He concluded that the use of the whole regression equation for predicting black complete grade-point averages would result in overestimation of

[...] education system. They studied the validity of the SAT and found its slope gradients on thirteen integrated institutions and concluded that to predict first-year grades of black students, a separate regression equation should be written.

Kallingal (1971) and Borup (1971) studied the validity of the ACT placement battery for predicting the grades of students from disadvantaged backgrounds and reached somewhat contradictory conclusions. Munday stressed his inquiry at whether or not the validity of the ACT would be adversely affected in colleges where students were predominantly black. Although the ACT scores for the black students were definitely lower than the national averages by nonetheless, found that the ACT battery was as useful for predicting college grades of students in black colleges as it was for predicting the grades of other students. Munday's analyses were evidence in five predominantly black colleges located in four different southern states. Borup (1971), on the other hand, reached the comparative validity of the ACT battery to ascertain the achievement of Anglo- and Mexican-Americans in one large Texas state university. Anglo-American students had scored significantly higher than the Mexican-American students on the ACT battery and, although their academic grade-point averages became available, there were no significant differences found between the two groups. Since the ACT scores had suggested that the Mexican-American

group would achieve considerably lower, it is recommended to

Among the 47 better and a built-in admin item suggests that scores obtained on this battery show need for individuals in college would score between median tracked to comparatively lower percentages against certain ethnic groups.

There has been no research to determine the validity of the Florida Twelfth Grade Test in predicting academic performance of Black students. In 1966, its Educational Testing Service published the results of a validity study which showed the Florida Twelfth Grade Test to have a correlation of .53 with first term freshman grades at the University of Florida. When high school grade-point average was added, a multiple correlation of .75 was obtained. The subjects in this study were all white.

Research into the actual academic performance of Black students in higher education, especially in compensatory programs, is sparse. Humphreys and Beyart (1971) report that " . . . particularly disturbing is the light of present criticism being directed against the use of the usual predictors of academic success in determining minority students' eligibility for admission to college" (p. 243).

Roberts and Finkin (1968) found that in academic performance of the 539 Black students in compensatory colleges they studied was considerably above the level predicted by such indices as the SAT. Twenty-one percent achieved an average of B or better and 35 percent achieved a C+ or

lower for the four years.  Slightly less than 19 percent of
the group studied graduated with honors and 1 percent was
elected to Phi Beta Kappa.  The seniors reported a drop-out
rate of 11 percent.  Black and Italian concluded that moti-
vational factors were probably more important than test
scores in the demonstrated superiority of black students in
completing college.

The academic careers of black students at the University
of Missouri was investigated by Borgel and Seymour (1971).  A
sample of 183 black students was catched with a sample of 198
white students using high school rank and scores on the School
and College Ability Test (SCAT) as performance variables.  Al-
though the two groups existed evenly on high school grade-
point average, the group of white students showed signifi-
cantly higher SCAT scores.  The results showed that the white
students achieved significantly higher grades in college than
the black students.  The even college grade-point average for
black freshmen, male and female, was well below a C (2.0)
average.  Borgle and Seymour concluded that the data in their
study suggested that for black students, especially males,
none of the well-established predictors of academic success
had little or no relevance.  It is interesting to note
that Borgle and Seymour raised the question "How should
these black students be selected so that there is some
assurance that they will be able to succeed academically?"
(p. 246).  A more relevant question might have been "How
should we have helped these students to succeed?"  Far

the truth of the matter is that the research approach is
having a very busy and rather difficult time at present.

> As is claimed by former graduates, he is fluent...,
> very hard in his studies, he is helped by almost all
> the members... even the personal investment?...
> sometimes such expenditures sometimes fail. He
> takes no chances, hence also rather tense his
> future is a recurrence which had met sympathetic
> has his own anatomy . . . . (Benedict, 1970, op. 30-31)

Comprehensive processes and programs have provided
some ways in which black students have been helped to
succeed. There is, unfortunately, little published re-
search to indicate how these practices and programs are
succeeding. Downs (1972) compared the regression
equations for regularly admitted students and disadvantaged
freshmen at the University of Illinois. Two subjects were
315 beginning freshmen, most of whom were black, who had
been admitted to the Special Educational Opportunities
Program. For these students, increased financial aid
and tutorial services had been budgeted, and special
departments had developed special first year courses
for these freshmen. First semester grade-point averages
were obtained for both regularly admitted and especially
admitted freshmen. For the latter group, the averages were
based upon grades earned in regular courses as well as grades
earned in the special courses. The mean grade-point average
earned by the disadvantaged students in the special courses
was higher than in the regular courses. However continued

about the interpretation of the grades, and stated that different grading practices of different Board of Trustees were confounded with grades. Other interviewers on the panel sessions are expected to elaborate on any differences.

Resnow suggested that the effectiveness of special programs could better be evaluated on the basis of how successfully they proportionately admitted black students for later regular course work.

The Staff of the Experimental Program in Higher Education at the University of Wisconsin-Milwaukee studied the performance of students admitted to this program (A. R. Murray, personal communication, July 10, 1972). Eighty-four percent of the students did not meet the minimum requirements of the University of Wisconsin. The results showed the students received a true grade-point average of 2.30 with over 90 percent achieving at least a 2.00.

The Educational Opportunities Program of the State University of New York at Buffalo was evaluated by its staff (E. R. Lynne, personal communication, July, 1972). Since the beginning of the program in 1969 with 131 students, 21 percent had terminated, 40 percent had graduated and 8 percent were still in the program. The students who graduated had a cumulative overall grade-point average of 2.83 which was slightly below the average of 2.90 for the entire graduating class. The conclusion was reached by the Buffalo University Staff that the opportunities and special sections

provided for the "high risk" students had to stand their goal of helping them to succeed in the University of Buffalo.

A number of researchers have attempted to find a relationship between socioeconomic status (SES) and minimal preference in college. In most studies, SES was measured by some objective techniques rather than by subjective ratings (Davie, 1965, pt. 6). "The objective techniques all involve the combining or weighting of scores on variables such as occupation, education, income, attendance at private or public school, area of residence, and the like on or to predict an index of the position of the student's family in the status hierarchy" (Davie, 1965, p. 223).

Lavin has stated that SES is a derivative on somewhat-ing variable; persons of different socioeconomic status face different kinds of life situations, and in adapting to them, they may develop different sets of values and life styles which may influence school performance (p. 123).

Intelligence has been found to relate positively with socioeconomic status (Davie, 1965; Reed and Stroud, 1959; Mitchell, 1956). However, in one study it was found that when SES is controlled, the correlation between intelligence and grades was not lowered (Rosenhall, 1951). This raises the question as to the predictive validity of SES factors. Friedhoff found that when intelligence and socioeconomic status between SES and grades dropped from a range of .37 to .47 to a range of .19 to .25. Similar findings were reported by Reed and Stroud.

Mason (1954) found a relationship between GPA and achievement motivation. Students who demonstrated high levels of motivation came from higher status social positions. Achievement motivation was nonsocial, the relation between GPA and grades was almost nonexistent. Mason (1954) stated this to be allucration of the fact that GPA seemed neither dependent upon, nor related to the amount of one's environment of motivation that motivational status is usually positively related to academic performance, but that on the college level the relationship is inverse when the range of GPA runs from the upper to the lower values (pp. 337-359). When considered together with task avoidance predictors on grades and task issues, the increase in the multiple correlation is not significant.

Parger and Self (1965) found a relationship between the academic achievement of white females and parent's marital status. Those from broken homes experienced greater difficulty in adapting to the college environment.

Worthington and Grant (1971) found a relationship between family income and academic success. It was concluded likely that a student from a family with a given income would be in a relatively higher or lower socioeconomic status group depending on the geographical location of the high school attended. Therefore, the student may be affected by different socioeconomic factors than a student with the same family income who attends another high school.

Moyes (1978) tested an interesting but obscure
status of a high school effort. He studies upper classesmen
of its students and specializes that

Whether the presence of very higher status students
adds primarily by desiring on subject; such library-
fall shows the most to study, he builds as an
ambient based setting; who the tired expectations
and standards is not first. (p. 40)

Nevertheless, Moyes found the observed effect of school
upon ratings intentions to be greater than had usually been
reported.

The relationship between socioeconomic status and aca-
demic performance is not consistent but Laren (1961) has
pointed out that socioeconomic status is an important vari-
able in investigate because it correlated variously with
others in attitude, motivation, and value systems, all of
which are related to academic performance (pp. 8).

## High Students at the University
## of Florida, 1971-73

Various institutions have drawn attention to the influ-
ence of settlemanon upon learning (Part and Rose, 1970;
Rose, 1968; Shaw, 1963). Studies noted by Kern (1949)
suggest that selective academic performances are related to
differences in response which the same as apparent environment
clients from each of several distinct subgroups of stu-
dents (p. 702).

That the environment of campus clients primarily is
traditionally white college and universities has influenced

The comparable performance of Black students was reported by Perdue (1972) who stated that the Black students " . . . in fact, appear to the social and even the physical environment . . . and were no worse off in their futures in a curriculum which did not originally take bus into account . . . " (pp. 49-50).

Reports of events which occurred during the 1970-73 academic year at the University of Florida are indicative that the stresses Black students found little harmony in the then prevailing "campus stress." It paralleled the anger of University—a black awareness—to charge "I don't believe the UF administration realizes the extent of the racial anger of two with Blacks around its mettle" (Patterson, 1971). This seething-black statement was made after black students had blasted the office of the University president and had presented him with a list of grievances and demands. The president's refusal to accede to the demands resulted in violence and the arrest of 72 students, most of whom were Black (Kirdloch, 1971). Shortly thereafter, 123 Black students withdrew from the University in protest drawing subsequently an investigation by the Southern Regional Council which in its preliminary report noted the statement that

    the University need become a place where
    the cultural pluralism of our society finds its
    fullest and freest expression. It must become
    a University where all students—Black
    or red—fail in Black, or in white that turn
    a blind smile into the process . . . that turn
    a blind smile . . . where Black students realize
    that society has accorded them respect . . .
    (Monroe & Jones, 1971, p. 4)

A day-long hearing held on the campus of the University of Florida by the subcommittee of the Florida Civil Rights Advisory Committee continued in this new attitude toward minority students was not good and that ". . . the university administration [did] not comprehend the problems facing students who are because of minority groups" (Beddink, 1971).

In terms sensoudis to infer from the events as sequenced that the prevailing continuation on the campus at the University of Florida during the 1970-71 academic year was here reflected the absolute performance of the black administrators of whom were enrolled in a compensatory program about which there existed serious misgivings. In a statement attributed to Mr. Oben Chairman of the Florida Board of Regents, it was said that

> The appropriate place for the preparation of blacks for university-level work is in the primary and secondary schools rather than through the remedial efforts of our state universities. (Harrison, 1971)

Making life more bearable for black students are a task that could not be accomplished by the University in the short period of 18 months, i.e., between the time the first group of black students was admitted and the time of them withdrew. That considerable progress has been made may be deduced from a report which allows that when the entire exact system of higher education came under criticism from the Department of Health, Education, and Welfare for

failing to desegregate more thoroughly, the Florida board of Regents looked to the University of Florida for a model to emulate (Chandler, 1973).

## Summary

The review of the literature and research has shown that an increasing number of black students are graduating from high school but that they are still not well represented in integrated institutions of higher education. Educational efforts have been directed at the "qualified" black student. Little effort has been made to bring forth ability among black students where opportunities for the development of this ability have been thwarted by circumstance.

Past research has been directed at predicting the academic performance of black students with nonindicating results. The literature suggests that academic performance of black students should be measured against norms developed within their own group. Published research to determine the effectiveness of compensatory programs is almost nonexistent.

Some relationship appears to exist between socioeconomic factors and academic performance in college. Although there is little predictive potential in these relationships, the results do suggest that black students may have special needs that cannot be met by traditional programs and services.

Research has also suggested the possibility that the
prevailing campus environment may influence the academic
performance of certain subgroups of students.

# CHAPTER IV

# THE PROBLEM

## Statement of the Problem

The purpose of this study was to determine the answers to the following questions.

1. Is it possible to differentiate between the group of black freshmen making satisfactory academic progress and the group of black freshmen making unsatisfactory academic progress at the University of Florida on the basis of the following selected variables: participation in the compensatory program, high school grade-point average, total score on the Florida Twelfth Grade Test, sex, graduation from all black or integrated high school, family income, and family marital status?

2. Within a known period of three quarters, how well have black freshmen, admitted to the compensatory program, performed academically as compared to black freshmen admitted in the regular academic program?

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The Need for the Study

In 1974, the administration of the University of Florida
implemented a program designed to meet the educational needs
of black students. It soon became necessary to determine
the usefulness of the program. The Human Rights (HRI) has
suggested that for minority education to be improved, it
is really necessary to evaluate what practices have been
effective and what have not.

When compensatory education came into existence at the
University of Florida, the administration found itself
operating in an area in which it had no effective source of
prior experience upon which to draw. And as pointed out by
Kendrick and Thomas (1978), research on the effectiveness
and effectiveness of compensatory programs and practices
was limited on quantity and scope.

If decisions are to be made relative to the future
development and management of the program, data must be
collected to assist in decision making. This data must con-
tribute to making the most appropriate choice among various
alternative ways in which black students may be assisted in
realizing their educational goals at the University of
Florida. In discussing the evaluation of programs for blacks,
Atterbury and Brown (1970) indicate that "Questions about
whether a program for blacks will be certified as crystal,
refunded or phased out, deperically altered or expanded need
to be asked at some point" (p. 55). Questions must be asked

and current restructuring need be taken in the context of program and curriculum changes taking place ........ years.

Most important, however, ............................ about the black students' ............................ here. The program was instituted for those ................. unable to increase their chances for successful ................. Please they are classified "disadvantaged," ................ by semester a comparison group. Carter (1971) .................. that there may well be many variations in the population of ............... times students are direct therefore, they potentially carefully defined and their special needs identified ................. in the kind of program that is provided.

If the results of the study were to show that in the basis of the variables selected there exist no differences between black students making satisfactory academic progress and black students not making satisfactory academic progress, additional variables will need to be considered. If differences are found, then, what needs to be further studied is whether students making unsatisfactory academic progress have needs that are not being met by the program. If, in relation to academic performance, no differences are found between black students admitted to the Special Educational Opportunities Program and black students admitted to regular academic programs, admissions criteria may need to be re-evaluated.

## DISCUSSION

From the review of the literature it is clear that
most previous research has concerned itself with predicting
the academic performance of black students and with compar-
ing that performance to achievement of white students.
Little effort has been made to learn about black students
per se. In this study the interest was centered upon how
black students perform academically. Considering the dif-
ferences in educational and economic opportunity, high
school performance, and socioeconomic status, it was sup-
posed that differences in levels of academic performance
would most likely exist between black and white students
at the University of Florida.

The rationale for this study was to learn about the
black students on the campus of the University of Florida.
Specifically, it was aimed to investigate whether or not the
level of achieved variables it was possible to separate the
successful from the less successful black student. Hope-
fully the results would contribute to learning more about
how the needs of the black students could be met. By
limiting the study to the black students, the effects of
possible test bias¹ and/or present--in the Florida health
Needs Test and differences in the "conditions of oppor-
tunity" were reduced.

## Definition of Terms

Satisfactory progress—University of Florida regulations state that students who achieve an overall 2.0 academic average or higher are making satisfactory progress.

Unsatisfactory progress—Students whose overall academic average is less than a 2.0 are considered to be making unsatisfactory progress.

Group I—Designation for the 15 students in this study making satisfactory progress.

Group II—Designation for the 46 students in this study making unsatisfactory progress.

G.P.A.—Grade-point average.

Gregory Placement Test—The Florida Twelfth Grade Test by which it is commonly known.

C+C—Course designation for Comprehensive Logan.

Intact home—Home term refers to the marital status of the student's parents and is meant to indicate that the parents are not divided by divorce or separation.

Broken home—Home term refers to the marital status of the student's parents and is meant to indicate that the parents are divided by divorce or separation.

Compensatory program—The Expanded Educational Opportunities Program.

Remedial program—Courses of study to which students have been admitted who must all admissonce requirements and for whom no special services have been specifically designed.

_Compensatory students._—Students admitted to the Expanded Educational Opportunities Program.

_Regular students._—Students admitted to regular programs.

## CHAPTER III

## RESEARCH DESIGN AND PROCEDURES

The study was designed in December [?] identify [?] the [?] the nonpecuniary program had been useful in helping black freshmen succeed in lower-division courses, and (2) [?] the impact of black freshmen---who availing themselves of the academic program, the other making nonsignificant artificial purpose---would be distinguished from each other on the basis of related variables. The independent variables selected are specified below in the section Data Collection and represented factors that were available in the student records at the University of Florida.

The academic performance of the black students was observed over a period of three quarters. During this time period special services were provided to students in the compensatory program. (An explanation of these services is found in Appendix A.)

The independent variables were analyzed to determine their relationship to academic performance of black students. The data analysis sought to identify that combination of variables which discriminated maximally between black students who were at the end of the third quarter had an overall 2.0

academic average (C) or better and were thus making satisfactory progress and black students who at the end of the third quarter did not have an overall 2.0 academic average and were, consequently, not making satisfactory progress. The analysis was made for black students admitted to the compensatory program as well as for black students admitted to the regular program.

## Description of Population

The subjects for this study were the 141 black students admitted to the University of Florida in June and September, 1970. Eighty-two of the students did not meet the minimum requirements for admission and were enrolled in the Expanded Educational Opportunities Program (hereafter referred to as the compensatory group). Of the 59 black students who did meet the requirements for admission (hereafter referred to as the regular group) approximately half commenced their program in June, the other half in September. In Table 1 is indicated the mean high school grade-point average and test scores of the two groups. Each younge required a mean high school grade-point average above the required 2.0. The average total Florida Twelfth Grade Test score of the compensatory group was 49 points below the required minimum of 300 for admission to the University. The regular group presented an average Florida Twelfth Grade Placement score 15 points above the minimum requirement of

360 far admission to the university. The average total Florida Graduate Grade Test score for the entire advanced freshman class that year was 421.

Table 1 – Average high school grade-point average and average Florida Twelfth Grade Test scores of black freshmen admitted to compensatory and regular programs at the University of Florida in 1970

| Subject Group | N | HS GPA | Florida Twelfth Grade Test | | | | |
|---|---|---|---|---|---|---|---|
| | | | Age | Eng | Math | SS | NS |
| Compensatory-male | 34 | 2.43 | 44 | 44 | 54 | 56 | 55 |
| Compensatory-female | 44 | 2.41 | 47 | 54 | 51 | 52 | 56 |
| Regular -male | 26 | 2.60 | 66 | 67 | 62 | 64 | 66 |
| Regular -female | 21 | 2.99 | 67 | 74 | 68 | 69 | 57 |

In Table 2 is contrasted the number of black students who graduated from all black or integrated high schools. As may be seen, the larger number of students came from high schools in which the enrollees was all black.

Table 3 – Numbers of black freshmen admitted to compensatory and regular programs at the University of Florida in 1970, who came from all-black or racially-mixed high schools

| Student Group | All Black H.S. | Integrated H.S. |
|---|---|---|
| Compensatory | 77% (60) | 21% (17) |
| Regular | 47% (44) | 21% (10) |
| Total | 104 | 36 |

Table 3 lists the average family income of the students and in Table 4 is found the percentage of students who came from either broken or intact homes.

Table 3 - Number and average family income of Black freshmen admitted to compensatory and regular programs at the University of Florida in 1968

| Entrant Group | $0-2499 | $2500-4999 | $5000-7499 | $7500-9999 | $10000 + |
|---|---|---|---|---|---|
| | N=18 | N=28 | N=28 | N=17 | N=9 |
| Compensatory | Average | Average | Average | Average | Average |
| | $1120 | $3913 | $6119 | $8420 | $16000 |
| | N= 9 | N=24 | N=14 | N=15 | N= 9 |
| Regular | Average | Average | Average | Average | Average |
| | $1410 | $3514 | $6171 | $8551 | $11747 |

Table 4 - Number of black freshmen accepted to the compensatory and regular programs at the University of Florida in 1968 who came from broken or intact homes.

| Entrant Group | Broken Home | Intact Home |
|---|---|---|
| Compensatory | 37% (31) | 63% (51) |
| Regular | 26% (13) | 74% (44) |
| Total | 44 | 97 |

In summary, the data show that, as a group, students
managed to the compensatory program can be distinguished
from the group of students admitted to the regular program
by the following factors: On the average, they had earned
fewer grades on high school. The differences, however, were
minimal although somewhat larger for male students than for
female students. On the Florida Twelfth Grade Test, com-
pensatory students had, on the average, obtained a score 100
points lower than the average score obtained by the regular
students.

A higher percentage of compensatory students graduated
from non-integrated high schools. Also, a higher percentage
of them came from homes in which the family had been dis-
rupted by divorce or separation of parents.

The average annual family income appears to have been
somewhat higher for the compensatory students ($5,405.00)
than for the regular students ($5,295.00). However, it should
be pointed out that the students came from families with an
annual income far above $10,000.00. The inclusion of these
two incomes is responsible for inflating the average family
income of the compensatory group to such an extent that it
gives a misleading impression. If category 8 is not in-
cluded, the average annual income would show higher for the
families of the regular students. Therefore, it seems safe
to state that, on the average, students in the compensatory
group came from families with a lower annual income.

## Collection of Data

The data for this study were obtained from student records maintained by the Registrar, the Financial Aid Office, and the Board of Examiners at the University of Florida. The source of the literature suggested that data such as high school grade-point average and test scores represented variables which had been found to be good predictors of academic performance. The literature also suggested a relationship between sex, socioeconomic factors, high school environment, and academic performance in college. Data were collected for each subject to make up the following variables.

1. Participation in the compensatory program.

2. High school grade-point average.

3. Total Florida Twelfth Grade Test score.

4. Graduation from all black or integrated high school.

5. Sex.

6. Marital status of family (broken or intact home).

7. Family income.

Two additional variables were created to test for interaction between participation in the compensatory or regular programs and sex.

## Analysis of Data

To analyze the data, one use made of a statistical technique known as discriminant analysis. This technique is proposed as a solution to the problem of using information

from a number of measured variables to finally an un-
classified subject into one of two groups to which he most
belong (Tatsuoka and Tiedeman, 1954). The data were analyzed
to determine the group or individual who most like (Fishbein,
1971). They are done by pushing some linear combination of
the variables that maximized the "between"-group difference
relative to the "within"-group differences (Anderson, 1958).
For a more detailed explanation of this technique, the
reader is referred to Appendix C.

The statistical treatment employed was a discriminant
analysis for two groups using a Biomedical Computer Program -
BMD06M - available at the University of Florida Computing
Center for use with the University's IBM 360 computer. This
particular program computes a linear function of $p$ vari-
ables measured on each individual of two groups and can
serve as an index for discrimination between the groups.
This index is determined from the criterion of "best" of all
possible indices in that the difference between the mean in-
dices for the two groups divided by a pooled standard devia-
tion of the indices is maximized (Dixon, 1971, p. 189). The
two groups between which this program discriminated were
(1) the group that made satisfactory academic progress (2.5
grade-point average or better at the end of the Winter Quar-
ter, 1971) and (2) the group that did not make satisfactory
academic progress (less than a 2.5 grade-point average at
the end of the 1971 Winter Quarter). The analysis used

pooled data with particularized in the contemporary program
or regular program on two of the independent variables.

## Limitations

1. Rationalization in college is a socialization ex-
perience. Whether a student succeeds academically or
not, the socialization experiences may contribute to
his sense of values, to his understanding of himself,
and to his ability to relate to others. Thus grade,
however, was limited to discriminating between two
groups of black students on the basis of an academic
criterion and the usefulness of the compensatory pro-
gram was measured against that criterion only. The
measurement of success when a student gained from the
program was beyond the scope of this study.

2. The subjects of this study were the black freshmen
admitted to the University of Florida in June and
September, 1970. Although the methods employed in
this study may be applicable to similar ones at other
multiyale institutions, on claim is made that the
results can be generalized.

3. It is recognized that academic performance may
be influenced by health, personality factors, poor
group attitudes and campus circumstances. Such variables
were not recorded. The study, therefore, was limited to
independent variables available from student records.

## FINDINGS

The discriminant analysis classified the 241 black students into a group of subjects making unsatisfactory progress (Group I) and a group of subjects making satisfactory progress (Group II). Group I contained 58 subjects who, at the end of the Winter Quarter, 1971, had not earned less than an overall 2.0 grade-point average. In Group II there were 54 subjects who at the end of the 1971 Winter Quarter had each earned a 2.0 or higher grade-point average at the University of Florida.

The first step in the discriminant analysis was to determine the usefulness of each of a set of variables in classifying the students in the population into either Group I or Group II.

Table I presents the means of the two groups for each of the variables. It may be observed from this table that the two groups differed in each variable by negligible amounts. It was apparent that no single variable by itself was useful in discriminating between the two groups of students. The possibility existed, however, that combinations of these variables could be useful in separating the two groups.

Table 1 - Variable means by group and differences in means

| Variable Symbol | Definition | Class 1 n=... | Class 2 n=... | Difference in means |
|---|---|---|---|---|
| $x_1$ | compensatory growth | 3.4354 | 3.5562 | -0.1208 |
| $x_2$ | physical growth | 3.4936 | 3.4510 | 0.0426 |
| $x_3$ | age - female | 5.8762 | 6.0136 | -0.1374 |
| $x_4$ | age - male | 6.3574 | 6.1353 | 0.2221 |
| $x_5$ | family size | 4.3548 | 4.5833 | -0.2285 |
| $x_6$ | non-relatives in household | 0.1312 | 0.1729 | -0.0417 |
| $x_7$ | birthplace | 287.1931 | 286.8760 | 0.3171 |
| $x_8$ | non-relatives in household | 0.1312 | 0.1729 | -0.0417 |
| $x_9$ | infrequent job seekers | 0.6132 | 0.5230 | 0.0902 |
| $x_{10}$ | is last born | 0.4238 | 0.3786 | 0.0452 |
| $x_{11}$ | infrequent job seekers | 0.4632 | 0.4471 | 0.0161 |
| $x_{12}$ | information $R_i^2 R_j^2$ | 0.2626 | 0.2430 | 0.0196 |
| $x_{13}$ | information $R_i^2 R_j^2$ | 0.2636 | 0.2430 | 0.0196 |

Using the discriminant analysis technique provided by the Biomedical Computer Program - BMDO4M - F ratios were obtained for each of several combinations of the variables. The first analysis employed all 13 variables, $x_1 \ldots x_{13}$, identified in Table 1.

Table 5 shows that the F ratio obtained for this full model was 1.73 which was not significant at the .05 level. That, among all variables, the linear combination that employed a profile by which the two groups of students could be differentiated.

By eliminating one of the interaction variables, $x_{13}$, the change in the degrees of freedom resulted in an F ratio of 2.12 which was significant at the .05 level. Thus the model, $x_1 \ldots x_{12}$, would be used with greater accuracy than pursuing to differentiate between the blank students in this study and to classify each subject into either the group eating unsatisfactory program (Group I) or, into the group eating satisfactory program (Group II). The resulting separations between the two groups may be found in Appendix D.

The model, however, did not reveal which of the variables contributed to the significance of the model and which did not. Many various combinations by eliminating one or more variables at a time. It may be noted from Table 6 that the model remained significant only as long as high school grade-point average ($x_1$) was included as one of the independent variables. When high school grade-point average

Table 4 - Linear combinations P yields resulting when one or more variables are deleted from a combination of variables to discriminate between a group of subjects making accurate/money program and a group of subjects asking carelessly program of subjects...

| Variable Combination | Variable(s) Eliminated | DF | F | Significance at .05 level |
|---|---|---|---|---|
| $x_1 \ldots x_{11}$ | $x_3$ | 10, 127 | 1.77 | ns |
| $x_1 \ldots x_{11}$ | $x_3, x_{11}$ | 12, 126 | 1.21 | ns |
| $x_1 \ldots x_{11}$ | $x_3, x_9$ | 12, 128 | 1.28 | ns |
| $x_1 \ldots x_{11}$ | $x_3, x_4$ | 10, 126 | 1.46 | ns |
| $x_1 \ldots x_{11}$ | $x_3, x_1, x_{11}$ | 12, 128 | 1.31 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3$ | 10, 130 | 1.55 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_4$ | 8, 130 | 1.52 | ns |
| $x_1 \ldots x_{11}$ | $x_1, x_2, x_3$ | 12, 132 | 1.41 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5$ | 8, 132 | 1.62 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5, x_7$ | 6, 134 | 1.73 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_8$ | 8, 134 | 1.60 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5, x_6$ | 6, 136 | 2.11 | s |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5, x_6, x_9$ | 4, 136 | 1.04 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5$ | 6, 138 | 1.57 | ns |
| $x_1 \ldots x_{11}$ | $x_2, x_3, x_5, x_6, x_{10}$ | 4, 138 | 2.56 | s |
| $x_1 \ldots x_{11}$ | $x_1 \ldots x_{11}$ | 2, 138 | 2.11 | s |
| $x_6 x_8$ | $x_2, x_3, x_4, x_5, x_{10}$ | 4, 140 | 1.34 | ns |
| $x_6 x_8$ | $x_9$ | 2, 140 | 2.94 | s |
| $x_6 x_8$ | $x_5, x_6, x_8, x_9 \ldots x_{11}$ | 4, 142 | 1.33 | ns |
| $x_6 x_8$ | $x_{10}$ | 2, 142 | 2.88 | s |
| $x_5 x_6$ | $x_8$ | 2, 144 | 3.12 | s |
| $x_8 x_9$ | $x_5, x_6, x_7 \ldots x_{11}$ | 4, 144 | 1.86 | ns |
| $x_8 x_9$ | $x_6$ | 2, 144 | 1.00 | ns |

... of two percent (family income), none of the combinations of variables ... significantly beyond the two groups. Factors such as family placement score, attendance at an all black or predominantly white school, family income, or racial status of generation were variables which did not contribute significantly to predicting whether a subject would be more like those in the group taking satisfactory or unsatisfactory academic progress.

It was surprising to discover that participation in the compensatory program did not contribute significantly to the discriminant model. The only variable in the discriminant model found to be significant was high school grade-point average. But, on the basis of this variable, it would not have been possible to classify the 111 black students into one of the two groups with a degree of accuracy much greater than chance alone. The difference in mean high school grade-point average for each group and the standard deviation was small while the range of high school grades was wide for each group and highly overlapping (Table 7). The slightly smaller standard deviation for the 15 students in Group 1 would indicate that it was somewhat more homogeneous than Group II in terms of high school achievement but the overlapping wide ranges of high school grades would make it difficult to achieve a clear separation.

Table 4 - Range, mean, and standard deviation of high school grade-point averages for students making satisfactory academic progress (Group I) and students making unsatisfactory academic progress (Group I) at the University of Florida

| | Range | Mean | S.D. |
|---|---|---|---|
| Group I | 1.8 - 3.8 | 2.55 | .41 |
| Group II | 1.8 - 3.5 | 2.81 | .47 |

The only criterion used to assign a student to the compensatory or the regular program was the total score on the senior placement test. The discriminant analysis did not show this test score to be useful in determining whether a black student was more like those in the group making satisfactory progress or the group making unsatisfactory progress. Although the difference in the mean scores obtained by the group assigned to the compensatory program and the group assigned to the regular program was about 160 points, the difference in the mean score between the group making satisfactory progress and the group making unsatisfactory progress was only seven points (Table 5).

High school grade-point average notwithstanding, it seems safe to state that on the basis of the variables selected, it is not possible to discriminate between black students who at the end of three quarters have earned a 2.0 or better grade-point average and those who at the end of three quarters have earned less than a 2.0 grade-point average at the University of Florida.

Table 8 shows that x% of xx satisfactorily rated in
the compensatory program. It xxx had academic xx xx
higher grade-point average by xx among xxxxx. number
Quarter. Of the 59 students who xxxxxxxx thxxx xxxxxxxx in
the regular program, 31 (52%) had xxxxxxxxx xxx xxxx

Table 8 — Percentage of block responses concerning
compensatory or regular who were making academic
factory progress (Group I) or satisfactory progress
(Group I).

|  | N | Group I | Group II |
|---|---|---|---|
| Compensatory students | 82 | 38% (31) | 62% (51) |
| Regular students | 58 | 36% (24) | 64% (31) |

Similarly, Table 9 shows that of the 58 students making
unsatisfactory progress (Group I), 31 (38%) were resulted
in the compensatory program and 24 (44%) were participants
in the regular program. Table 9 also indicates that a
greater percentage of the students making satisfactory
progress were enrolled in the compensatory program, 59
percent as compared to 41 percent who matriculated in the
regular program.

Table 5 = Percentage of students classified in Group I or Group II who were enrolled in either the summer/early or regular programs.

| | N | Summer/early | Regular |
|---|---|---|---|
| Group I | 53 | 56% (31) | 44% (24) |
| Group II | 80 | 56% (51) | 44% (36) |

Since, with the exception of the high school psychology course, none of the variables used in this analysis contributed significantly to determining whether a subject was next into these making satisfactory progress or academic factory progress, a multiple regression analysis was done to learn what relationship the variables had to the grade-point average earned at the University of Florida by the end of the 1970 Winter Quarter.

This analysis utilized the Biomedical Computer Program – BMDO5R – a program which provided a correlation matrix, means and standard deviations, regression coefficients and their standard errors, intercepts, and multiple correlation coefficient.

For the regression analysis, data were pooled for all 161 subjects. Correlation coefficients are shown in Table 16 and the results of the analysis in Table 11.

Table 10 - Matrix of correlation coefficients for seven independent variables and grade-point average earned in the University of Florida by 191 black students

| | Participation in compensatory prog. | Sex | High school g.p.a. | Grade placement (quartile rank of high school) | Family income | Parents' marital status | Univ. of Fla. g.p.a. |
|---|---|---|---|---|---|---|---|
| Participation in compensatory prog. | 1.00 | -.06 | -.04 | -.11 | .11 | -.19 | -.05 |
| Sex | | 1.00 | -.06 | | -.04 | | .007 |
| High school g.p.a. | | | 1.00 | .16 | -.06 | .13 | .15 |
| Grade Placement score | | | | 1.00 | .18 | .20 | .15 |
| Non-integrated high school | -.81 | .18 | | | 1.00 | .22 | .17 |
| Family income | | | | | | 1.00 | .14 |
| Parents' marital status | | | | | | | .43 |
| Univ. of Fla. g.p.a. | | | | | | | 1.00 |

Table 11. Means, standard deviations, regression coefficients, standard error of regression coefficients, and partial correlation coefficients of independent variables with number of semesters completed by El Paso students.

| Independent variable | Mean | Standard deviation | Regression coefficient | Standard error of regression coefficient | t value | Prob. (two-tailed) | Partial correlation coefficient |
|---|---|---|---|---|---|---|---|
| Compensatory program | 1.40146 | .49106 | -.26413 | .19012 | -1.38924 | .16561 | -.09952 |
| Sex | 1.51907 | .49986 | -.11137 | .19614 | -.56779 | .57072 | -.04075 |
| High school GPA | 2.52063 | .67808 | .41852 | .13030 | 3.21198 | .00147 | .22529 |
| Age | .44200 | .48888 | .43674 | .20110 | 2.17176 | .03091 | .15578 |
| Parental income | 2.84.57358 | 42.86714 | -.00210 | .00138 | -1.52230 | .12920 | -.10897 |
| High school rank | -.15117 | .43352 | -.24619 | .14193 | -1.73466 | .08411 | -.12395 |
| Family income | 2.33344 | 1.23369 | .08141 | .10601 | .76792 | .44332 | .05516 |
| Parental decision about college | 1.73706 | .44160 | .19300 | .18343 | 1.05218 | .29380 | .07536 |
| No. of ETS | 2.17440 | .64243 | | | | | |

COEFFICIENT OF DETERMINATION ..... 0.195

Sum of squares of deviation from regression ..... 214.6
Sum of squares of deviation from regression ..... 62.5
No. of cases ..... 157
Degrees of freedom ..... 148
Efficiency (% Value) ..... 3.96000

The ... were calculated as follows:

$z_i = c_0 + c_1 x_1 + c_2 x_2 + ... + c_n x_n$

The ... may had the form

$$z_i = c_0 + c_1 x_1 + c_2 x_2 + ... + c_n x_n$$

where

$x_1, x_2 ...$ $x_n$ = regression coefficients of variables
$c_1, c_2 ...$ $c_n$ = values of variables $x_1, x_2 ... ?$
$z_i$ = ... value
$\bar{y}$ = predicted g.p.a. at the University
of Florida.

Employing the exact formula, the contribution each variable made to the mean grade-point average scored by the total group of subjects was calculated from the data shown in Table 11. That value was 2.07 and was accounted for as follows.

2.07 = .38 + (.611)(.92) + (1.11)(.01) + (.43)(2.75) +

1.01(0.113) + (-.24)(1.78) + (.13)(2.73) +

1.04(1.07), as

| | |
|---|---|
| alpha | .38 |
| compensatory program | .19 |
| sex | .92 |
| high school grade-point average | 1.11 |
| weight placement score | .47 |
| non-compensatory high school | -.18 |
| family season | -.24 |
| parents' marital status | .13 |
| | |
| mean grade-point average | 2.07 |

As one student, the regression model associated high school grade-point average with the greatest contribution to the mean grade-point average earned at the University of Florida. In the model, ranked placement test scores made the second greatest contribution although considerably less than high school grade-point average. Of the total contributions made by all variables, participation in the compensatory program accounted for about 4 percent while each freshman sex, family income, and parents marital status had little influence on the mean grade-point average earned at the University of Florida.

Correlations (r) and multiple correlations (R) between and independent variables are added in a regression model seeking the relationship between these variables and grade-point average earned by the 141 black students are shown in Table 12.

Table 12 - Correlations (r) and multiple correlations (R) of resulting an independent variables are added in a regression model seeking its relationship between the variables and GPA earned by 141 black students

| Variable Added | r | R |
|---|---|---|
| compensatory program | -.040 | .048 |
| sex | -.007 | .049 |
| high school g.p.a. | .264 | .313 |
| senior placement test score | .138 | .324 |

Table 12 (continued)

| Variable Added | r | ΔR |
|---|---|---|
| non-integrated high school | .147 | .142 |
| family income | .... | ... |
| parents' marital status | .109 | ... |

Similar correlations are shown in Tables 13 from 13 respectively for the 30 students in Group 1 and ... for students in Group 2.

Table 13 — Correlations (r) and multiple correlations (R) resulting as independent variables are added to a regression model entering the relationships model as each new term one term. At the one student's making secondary/tertiary presence.

| Variable Added | r | R |
|---|---|---|
| compensatory program | .143 | .143 |
| ran | -.030 | .144 |
| high school g.p.a. | .244 | .269 |
| second placement test score | -.181 | .316 |
| non-integrated high school | -.053 | .367 |
| family income | -.026 | .383 |
| parents' marital status | -.013 | .397 |

Table 14 - Correlations (r) and multiple correlations
(R) relating an independent variable and added to a
regression model relating the scholarship between
the variable and GPA scored by 64 black students
taking satisfactory progress

| Variable added | r | R |
|---|---|---|
| compensatory program | -.105 | .105 |
| race | -.122 | .123 |
| high school g.p.a. | .070 | .127 |
| senior placement test score | .091 | .091 |
| non-designated high school | -.057 | .091 |
| family income | .082 | .091 |
| parents' marital status | -.008 | .093 |

As data was gathered and analyzed, the notion grew
that students in the compensatory program might have
benefited to even extent from grading processes different
from those used for students in the regular program. This
notion was explored to determine whether or not this was
indeed the case.

At the University of Florida, all students who enrolled
to complete a number of courses in general education. As
employed at Appendix A, special sections were designed to
aid students in the compensatory program in the areas of
Comprehensive English, Comprehensive Social Science,

Comprehensive Physical Science, Comprehensive Logic, and Fundamentals of Mathematics. In the 1975-76 academic year, achievement in Comprehensive Social Studies, Comprehensive Physical Science, and Comprehensive Logic was measured by a standardized instrument which was administered to the students in the compensatory program as well as to the students enrolled in the regular program.

In Comprehensive Social Science and Comprehensive Physical Science, students in the compensatory and in the regular program were apparently graded on the basis of the same norms. In relation to the standard scores, no differences were found between grades received by students in the two groups. In Comprehensive Logic, however, it was noted that students enrolled in the special section of that course were graded on the basis of norms obviously different from those established for the students attending the regular sections.

Again using the Biomedical Computer Program - BMDO3R - a regression analysis was done for the 16 students enrolled in the special section of Comprehensive Logic and for the 18 students enrolled in the special section of Comprehensive Logic. Grades received in Comprehensive Logic was the dependent variable and the following were the independent variables:

$x_1$ = zeta
$x_2$ = High school g.p.a.
$x_3$ = senior placement test score
$x_4$ = standard score in CLC

The regression model had the form

$$y = b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + a$$

where

$b_1,b_2,b_3,b_4$ = regression coefficients of variables
$x_1,x_2,x_3,x_4$

$x_1,x_2,x_3,x_4$ = value of variables 1,2,3, and 4
$y$ = intercept value
$a$ = grade received in CLC

A battle of regression coefficients for each group in whose respository in Tables II and IX and the results of the analyses for each group in Tables IV and IX respectively.

The mean grade received by the regular group in Comprehensive Logic and 2.16. Employing the above formula, the contribution each variable made to the mean grade was calculated from the data shown in Table II and was found to be as follows:

| | |
|---|---|
| zeta | -.120 |
| age | .08 |
| High school g.p.a. | 3.14 |
| senior placement test score | 1.15 |
| CLC standard score | .45 |

Mean grade received in CLC                  2.76

The mean grade received by the group enrolled in the special section of Comprehensive Logic was 2.16. It was recommended as follows:

Table 15 ... ... ... for four independent variables and ... ... for by 24 black students in ... section of Comprehensive Logic

| Variable | | | | CLC grade |
|---|---|---|---|---|
| sex | .000 | | .32 | .18 |
| high school g.p.a. | | | .22 | .24 |
| senior placement test score | .11 | 1.00 | -.84 | .14 |
| CLC standard score | | | .24 | .93 |
| CLC grade | .18 | | .24 | .93 |

Table 16 – Matrix of correlation coefficients for four independent variables and grade-point average earned by 24 black students in the honors section of Comprehensive Logic

| Variable | high school g.p.a. | senior placement test score | CLC standard score | CLC grade |
|---|---|---|---|---|
| sex | -1.00 | .40 | .18 | -.18 |
| high school g.p.a. | | .18 | .18 | .19 |
| senior placement test score | -.46 | 1.00 | .16 | .18 |
| CLC standard score | .16 | .18 | .16 | .18 |
| CLC grade | .07 | .27 | .24 | .38 |

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Table 1.V. Means, standard deviations, regression coefficients, standard error of regression coefficients, and asymptotic t-ratios for coefficients from five repeated-measures analyses applied to data related to the animal section of the (something) test.

| Variable | Mean | S.D. | Regression coeff. | Std. Error coeff. | Asym. t-ratios coeff. |
|---|---|---|---|---|---|
| Age | 0.56556 | 0.47948 | -0.25610 | 0.12850 | -1.99314 |
| Age squared | 2.71636 | 0.49851 | 1.25701 | 0.33202 | -3.11712 |
| Female Interest score | 245.63464 | 85.18737 | 0.00434 | 0.00578 | 0.54809 |
| GLI raw score | 145.75516 | 33.08017 | -1.33303 | 0.61871 | -1.73229 |
| GLI scale | 0.85904 | 0.37056 | 0.69380 | 0.72135 | 0.47529 |

Coefficient of determination .......... 0.3403
Multiple correlation coefficient ...... 0.5834
Sum of squares of residuals ........... 3.1651
Number of observations ................ 15
Number of parameters estimated ........ 5
Degrees of freedom .................... 10
Residual: 14 Total

Table 16 - Means, standard deviations, regression coefficients, standard error of the regression coefficients, and the t-values for the five predictor variables for total group

| Variables | Mean | Standard Deviation | Regression Coefficient | Standard Error | t |
|---|---|---|---|---|---|
| Age | 0.49114 | 0.55190 | 0.11611 | 1.14998 | 0.9984 |
| High school G.P.A. | 2.49098 | 1.96008 | 0.19703 | 0.31103 | 2.11113 |
| Grade placement | 356.11748 | 16.47944 | 0.09194 | 0.09545 | 2.01113 |
| OCT raw score | 223.09450 | 126.18518 | 0.06018 | 0.06962 | 2.01933 |
| CGP placement | 0.47601 | 0.47922 | | | |

Coefficient of determination ........... 0.5493
Multiple correlation coefficient ....... 0.7411
Standard error of estimate ............. 0.3202
Constant of regression ................. 0.6832
Number of cases ........................ 30
Degrees of freedom ..................... 24
Standard error of estimate ............. 0.3205
Constant (a) ........................... -2.11218

alpha ............... -4.60
sex ................. -.02
high school g.p.a ... .60
senior placement score .04
CLU standard score ... 0.09

Mean grade completed is
about 2.14

Correlations between the four independent variables and grades received in Comprehensive Logic are shown in Tables IV and V for the two groups enrolled in the regular and special sections of Comprehensive Logic respectively.

Table IV - Correlations (r) and multiple correlations (R) revealing when independent variables are added to a regressive model ranking the relationship between the variables and grades received in the regular section of Comprehensive Logic.

| Variable added | r | R |
|---|---|---|
| alpha | .159 | .159 |
| high school g.p.a. | .445 | .503 |
| senior placement score | .446 | .510 |
| CLU standard score | .330 | .512 |

Table V - Correlations (r) and multiple correlations (R) revealing when independent variables are added to a regressive model ranking the relationship between the variables and grades received in the special section of Comprehensive Logic.

| Variable added | r | R |
|---|---|---|
| sex | .074 | .074 |
| high school g.p.a. | .376 | .350 |
| senior placement score | .375 | .447 |
| CLU standard score | .023 | .449 |

It may be noted from Tables 19 and 20 that the relationship between standard scores and grades received in Comprehensive Logic are considerably greater for students enrolled in the special section of that course than it was for students enrolled in the regular section. Therefore, grades attained is to some extent attributable to differences in grading practices and, thus, mean grade-point average earned by the two groups of black students does not constitute a common base for comparing their academic performance.

# CHAPTER V

# CONCLUSIONS

This study inquired into the academic performance of
141 black freshmen admitted to the University of Florida in
the 1970-71 academic year. Eighty-two of the students who
did not meet the entrance requirements had been placed in
a compensatory program designed to assist students whom aba-
cational, financial, social and cultural background may have
limited their opportunities to pursue a course of higher
education at the University of Florida.

One of the basic questions the study sought to answer
was to what extent differences existed between black fresh-
men who had made satisfactory academic progress and black
freshmen who had not done so.  Indirectly, the study sought
to evaluate the usefulness of the compensatory program.  On
the basis of the findings, the following conclusions were
reached:

1. There were no significant differences between the
   group of black freshmen making satisfactory aca-
   demic progress and the group of black freshmen
   making unsatisfactory academic progress.

2. High school grade-point average had the strongest
   relationship to grades earned by the black students.

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3. The usefulness of the Florida Twelfth Grade Test as a basis for reception block dropouts as either the compensatory or surplus programs at the University of Florida is questionable.

4. The compensatory program provides an opportunity for 91 black students to gain admission to the University of Florida. The program did not substantially reduce significantly to the academic performance of the black students.

5. Students recruited to the compensatory program had black, to some extent, from differential grading practices.

6. The ability to cope with the files providing "escape climate" may have been one possible factor for the superior performance of students. The black students take two groups—one admitting arbitrary academic difficulty. The other analog satisfactory academic progress.

On the average, the students making satisfactory academic progress could be distinguished from those making unsatisfactory academic progress by the following factors: They had earned a higher grade-point average in high school and had earned higher on the Florida Twelfth Grade Test.

They were from families with a higher average social income and in which the occurrences of divorce or separation of parents was less frequent. A somewhat larger proportion of students in the group making satisfactory academic progress had graduated from integrated high schools.

The differences found, however, were minimal. The results of the discriminant analysis showed that, for all practical purposes, the distinction in both groups came from the same population. In other dictionary could be established on the basis of the variables selected with the possible

exception of high school grade-point average. The various models used in the discriminant analysis to explore possible differences were significant at the .05 level only when high school grade-point average was included as one of the independent variables. When screened, none of the combinations of variables were useful in establishing significant differences between the two groups of black students.

Although high school grade-point average was the only independent variable which was significant in the discriminant model, its usefulness is questionable. The two groups differed by only .3 of a grade point. Moreover, the range of high school grade-point average was wide for each group and highly overlapping as that on the basis of this variable alone, an definite classification can be drawn as to which of the two groups of students a black freshman is most likely to belong. Thus, it may be concluded that distinctions between the group of black students making satisfactory academic progress and the group of black students making unsatisfactory academic progress cannot be established with the variables selected for this study. Both groups appeared to be similar on terms of high school achievement and family background.

The results of the discriminant analysis did bring into question the usefulness of the Florida Twelfth Grade Test as a basis for analyzing black freshmen in unpromotory

[text illegible] of statistics, the

[illegible] [...] offered on this page by an average [illegible] [...] than of these quarters. These [illegible] [...] also had some unique grouping—one being [illegible] [...] to make unsatisfactory academic progress; and [illegible] [...] was found to be a weak [illegible]. Thus the results of the multiple regression [illegible] [...] stated above caused the correlation between [illegible] [...] both mean and grade-point average [illegible] University of Florida by the 161 black students [...] [illegible] (1). In view of this weak relationship, it could appear that the process of plenary total reliance on this [...] as a means of selecting and excluding black freshmen to reduce the commonplace in the regular programs is questionable.

None of the variables investigated yielded a high correlation to the grade-point average earned by the black freshman. This may be noted from the results of the multiple regression analyses shown in Tables 12, 13, and 14.

For the total group of 161 black students, high school grade-point average, with a correlation of .38, showed the highest (although weak) relationship to grade-point average earned at the University of Florida. A similar result was obtained in a separate regression analysis for the 64 students making unsatisfactory academic progress. For this group, the correlation between high school and college grade-point average was .24.

On the surface, it would appear that for the 56 students noting satisfactory academic progress that relationship, with a correlation of .480 was almost non-existent. Instead, for this group of students, the total score on the Florida Twelfth Grade Test appeared to have the highest relationship (.286) to grade-point average earned in the University. The meaning of this, however, should be interpreted with caution. It may also be noted from Table 14 that for the students achieving satisfactorily, participation in the compensatory program showed a negative correlation of -.32 as compared to a mean +.049 mean grade point and (.11) due the students making unsatisfactory progress. Thus it would appear that in the more successful group, students from the regular program tended to rank the highest grades. It should be pointed out, however, that the students admitted to the regular program achieved, on the average, scores on the Florida Twelfth Grade Test of over 100 points higher than did the students admitted to the compensatory program. It would thus seem reasonable to believe that being enrolled in the regular program and the Florida Twelfth Grade Test score would be highly associated with each other and it is believed that this then is reflected in Table 14.

For the total group of 141 students, the relationship between Florida Twelfth Grade Test score and grade-point average earned at the University showed a correlation of only .13. This fact, coupled with the results of the

discriminant analysis, tend to increase the suspicion that this test may not provide a useful basis for selecting and admitting black freshmen to the University of Florida.

The other variables investigated such as sex, integrated or non-integrated high school, family income, and parent's marital status showed either negative or very small positive correlations. In the regression models, these variables added little to the multiple correlations with the possible exception of attendance at a non-integrated high school. This variable consistently obtained a negative correlation in all three models (Tables 12, 13, and 14). In each case, however, the relationship was weak. To state that the students who graduated from all black high schools tended to make the lower grades would have to be done with reservation.

To 82 of the students in this study, the compensatory program provided an opportunity--one without which they would not have gained admission to the state's university system. And it is shown in Table 8, 72 percent of them were making satisfactory academic progress at the end of the 1971 Winter Quarter. But beyond providing this opportunity, it would appear from the results of the multiple regression analyses that the compensatory program did not directly contribute significantly to the academic achievement of the black students. Ironically, the highest positive relationship found between participation in the program and

_____ series of the University see for the 53 students who

_____ series constitutory program. With a correlation of

-___ (.16), however, the usefulness of the program is far

_____ conclusive. For the 24 more successful students (which

excluded 31 individuals from the compensatory program), the

correlation was -.10, while for the total group, using

pooled data, the correlation between participation in the

compensatory program and level of academic achievement was

found to be extremely low—obtaining a correlation of not

quite -.05. Thus it would appear that the students assigned

to the regular program tended to make the higher grades.

Whatever the educational deficiencies of the less successful

students, the compensatory program appeared to contribute

little to overcoming those deficiencies. Some individual

black students may well have benefited from the services

provided in the compensatory program but in the total group,

the contribution made by the program to the academic achieve-

ment of the students seems questionable.

The highest multiple correlation obtained, using all

variables, was .48 which, although not unusual, would appear

to be low. As was pointed out in the review of the litera-

ture, an average multiple correlation of .50 has been ob-

tained by various researchers among grades and standardized

test scores to predict grades in college. Validity studies

done by the College Entrance Examination Board for the

University of Florida achieved multiple correlations as high

as ,if among seven predictors including the Scholastic Aptitude Test and ,if using five predictors including the Florida Pacific Grade Test. Thus such a multiple correlation of only .65, it would appear that factors in addition to those investigated were related to the academic performance of the black students.

It is, of course, difficult to reach definite conclusions in regard to the actual level of achievement attained by the students in the compensatory program because of the different grading practices held in in the Comprehensive logic classes. The relationship between standard examination scores and grades received in Comprehensive logic exposed a correlation of .13 for the regular students. For those in the compensatory program, the correlation was .61. There is no doubt that students in the compensatory program received higher grades than students in the regular program received for the same standardized test score. To some extent, this affects the results of the discriminant analysis in that the two groups of black students were separated on the basis of grade-point average earned at the University of Florida. As it is, grades earned by individuals in the compensatory program reflect a level of academic achievement inflated by predictorial grading practices.

The reason for this inflation may have been to instill confidence and to motivate students to continue to progress.

of human motivation on the compensatory program's merits, however, a difficult task. The real effects, which already have been merged into question, require further research.

Nevertheless, the Associations analysis established the fact that the 40 students making satisfactory academic progress, and the 34 students not making satisfactory academic progress, comprised a rather homogeneous group with respect to the variables studied. What made two seemingly similar groups of black students arrive at different levels? The projections advanced here last supported by the findings of this study; is that differences in levels of achievement may have been related to differences in ability to cope with the University's environment.

The students in this study came from families with an average annual income below $5,000.00. Thirty-one percent of the students came from broken homes. Seventy-five percent had graduated from all black high schools. Of the same students that many of these students had no plans to attend college until signalled by the University of Florida, it seems reasonable to believe that this group of black students was far from "college-oriented." Furthermore, these 141 students comprised the first sizeable number of black students to be admitted to a historically all white university; in 1978, had a campus climate that appeared to be far from "ideal" for black Americans. The presence of black

faculty and staff was almost non-existent. It is an open question to what extent student organizations on campus were receptive to black people. It would thus appear that, in 1976, the "atmosphere" at the University of Florida was far from conducive to learning as far as the black students were concerned many of whom had academic difficulties to begin with. That year, the University does not appear to have attracted many academically well-prepared black students who, according to the review of the literature, were in general meeting aspiration in well-known black colleges and universities.

In addition, compensatory education directed toward overcoming the educational deficiencies of black students was a new experience on the campus of the University of Florida. During the three quarters covered by this study, the ensuing interaction between black students, the compensatory program, and the campus climate was, as pointed out in the review of the literature, wrought with tension. It was a period during which faculty, administrators, and black students appeared to be searching to find a common ground for respectability. For this particular group of black youngsters recruited in 1976, attending the University of Florida may well have been a difficult experience because of the many adjustments demanded from them and the University. It was that situation which leads to the advancement of the

proposition that one possible factor accounting for the separation of a member homogeneous group of 141 black students into two groups—one making satisfactory academic progress, the other making unsatisfactory academic progress—was the difference in ability to cope with a difficult environmental situation.

This study has brought into question the ability of the compensatory program as it existed in 1970. Much, however, has changed on the campus of the University of Florida since that year. There are larger numbers of black students, faculty and staff. It appears the atmosphere has become more receptive to black students. If the compensatory program is maintained to fulfill the University's moral obligations, further research should be conducted to learn if the program can be justified in terms of cost and effort in relation to expected results.

With its changed "climate," however, it would appear the time has come for the University of Florida to meet genuine effort in recruiting the very academically well-prepared black students who each year are graduated from high schools and community colleges. When "without personality" the University begins to attract these black students, then it may be offering educational opportunities that are truly equal.

Implications for Further Research

The findings of this study suggest the need for further
research. Additional studies should be conducted to test
the conclusion that the Expanded Educational Opportunities
Program does not directly contribute significantly to the
academic achievement of black freshmen at the University of
Florida. If the conclusion is sustained, attention should
be given to the question of whether resources, earmarked for
the E. E. O. program, should be devoted to areas that do
directly contribute in a significant way to the academic
achievement of black students who do not meet admission
requirements. Resources should not be wasted, however,
unless and until further research has been able to establish
what these areas are.

An alternative would be to develop a university whose
campus environment and academic offerings hold the same
appeal and promise for academically well-prepared black
Americans as it currently does for white Americans. It can
race, compensatory education practices should perhaps be
left to those institutions which for many years have had a
reputation of expertise in that area, e.g., the community
colleges. In any case, the findings of the present study
suggest the need for a re-appraisal of the part of the
faculty and administration at the University of Florida as
to which efforts and method most effectively assimilate
black Americans into the academic setting of the University.

APPENDIX

DESCRIPTION OF THE DEFENSE EDUCATIONAL
OPPORTUNITIES PROGRAM

The computer was designed to assist students whose financial, educational, social and cultural background may have limited their opportunities to pursue a course of higher education at the University of Florida. Each year, approximately 150 students are selected, most of whom present scores on the Florida Twelfth Grade Test below the required minimum for admission. A few are admitted with high school grades below the standards set for admission. Although the majority of the participants are black Americans, the program is open to members of all races.

The students are enrolled in the regular required basic program; however, special services are specifically designed to aid participants in the Expanded Educational Opportunities Program. The special services are found in the following areas: Comprehensive English, Comprehensive Social Science, Comprehensive Physical Sciences, Comprehensive Logic, mathematics, etc.

Each student in the Program is assigned to an academic counsel. At the time he first enrolls. The counselor advises the student concerning career options, curricular, and academic problems which may arise. All effort is made

to prevent the student from experiencing serious academic difficulty.

Classes are limited to between 15 and 25 students. During the initial quarter classes are not flex tuned a vast portion of the normal three hours a week. In the subsequent three quarters there is a gradual evolution of the timeline.

To aid students in attaining the regular academic programs of the University, special services are provided. Tutors are assigned to all students in the program for their required courses and for elective courses whenever possible. Counseling services are available in the form of academic, personal, and career counseling. Reading and study skills are improved through the University's Reading Improvement and Study Skills Center which is staffed with full-time personnel.

Financial aid is provided in the form of grants, loans, and work-study programs. Participants are not allowed to work during the initial quarter (summer) and may work no more than two quarters of the total academic year.

DESCRIPTION OF THE FLORIDA STATEWIDE TWELFTH
GRADE TESTING PROGRAM

The Statewide Twelfth Grade Testing Program is manu-
factured in all Florida high schools each fall to provide
comparable ability and achievement data on all seniors.
The testing instrument of the Florida Program was prepared
in 1962 by the Educational Testing Service, Princeton,
New Jersey.

The six components of the test are as follows:

**Academic Ability**—Verbal analogies (based on synonyms, antonyms, part-whole, cause-effect, male-inferior, similar-relations, and other relationships); mathematical competencies (requiring recognition of associations and relationships in which there is involvement in data to determine such relationships).

**English**—Usage (diction, idiom, parallelism, modification, logic and coherence, sentence-word agreement), capitalization, punctuation, sentence structure.

**Social Studies**—American history, world history, geography, economics, sociology, government, general culture.

**Natural Science**—Biology, chemistry, physics, astronomy, geology, technology.

**Mathematics**—Algebra, geometry, the number system, set theory, coordinate geometry, data interpretation.

**Reading**—Ideas based upon performance in verbal usage; section of ability test, the English test, and the social studies test.

scores contrasted to national percentile ranks based upon courses and standardized usual scores. Each student's performance is compared to that of other Florida high school seniors. The passing rank indicates the percentage of students that scored worse equal to or less than a given raw score.

Scores on the Florida Twelfth Grade Test range from 0 to 495. Regulations of the Florida State Board of Regents require that a high school graduate present a total of 300 or above for the sum of its percentile ranks on the five tests as well as "C" average in academic high school subjects as the fully disciple for admission to the state universities.

A score of 300 would place a person in the 68th percentile. The median score of the 1976 incoming freshman class at the University of Florida in 1976 was approximately 420 which is at the 80th percentile.

## APPENDIX J

### EXPLANATION OF DISCRIMINANT ANALYSIS

The following is based on Rool (1969):

A problem which often arises is that of discriminating between two groups of individuals on the basis of several properties of these individuals. Whenever a relationship exists between academic performance of a particular group of students and a set of variables, it is possible to estimate by means of multiple regression the academic performance a student may be expected to demonstrate, provided it can be ascertained that the student belongs to that class of students. To analyze the set of variables for the purpose of determining the group of students an individual is most like, the technique of discriminant analysis is an appropriate technique.

For example, we wish to classify a group of students, some of whom belong to one group (successful) and the rest to a second group (unsuccessful), into their proper group by means of a set of variables obtained from each student. If the two groups are similar with respect to the set of variables, it will not be possible to classify the students correctly by means of a single variable because of a fairly large amount of overlap in the distribution of this single

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variable two two groups; however, it may be possible to find a linear combination of these variables whose distributions for the two groups would possess little overlap. This linear combination may then be used to yield a set of discriminant scores by which students of two groups could be differentiated. The procedure for discriminating would amount to finding a critical value of the index such that any student whose index fell below the critical value would be classified as belonging to one group, otherwise to the other group.

The principal difference between a linear discrimination function and an ordinary linear regression function arises from the nature of the dependent variable. A linear regression function uses values of the dependent variable to determine a linear function that will estimate the values of the dependent variable, whereas the discriminant function determines no such values but uses instead a profile of combined variables to discriminate between two groups of students on the basis of their compiled profile (Abel, 1961).

A linear combination of a set of variables may be represented as follows:

$$Z = c_1 x_1 + c_2 x_2 + \ldots + c_n x_n$$

where $x_1, x_2, \ldots, x_n$ are the variables and $c$ the coefficients for each variable.

The problem then is to determine the I's by means of some criterion that will enable I to serve as an index for differentiating between members of the two groups.

The determinant function I is in fact the weighted combination of the R variables that maximizes the difference between two groups.

Further explanation of this technique and examples of its practical application may be found in Rao(Kean (1951), Tatsuoka and Tiedeman (1954), Dunsberry (1961), Dresdoff (1961), Li (1964), and Anderson (1964).

## RESULTS OF DISCRIMINANT ANALYSIS
## FOR TWO GROUPS

F(2,129) = 7.12

| Freq. No. | N | Step 2 | Wilcoxon I | Std. Dev S |
|---|---|---|---|---|
| 1 | 55 | 8.10211 | 8.08998 | 8.83574 |
| 2 | 55 | 1.81775 | 8.68834 | 8.68848 |

| Rank | First Group Values | Second Group Values | First Group Item No. | Second Group Item No. |
|---|---|---|---|---|
| 1 | 0.83677 | | | |
| 2 | 0.52303 | | | |
| 3 | 0.47911 | | | |
| 4 | 0.35104 | | | |
| 5 | 0.43330 | | | |
| 6 | | | | |
| 7 | | 0.82840 | | 36 |
| 8 | | | | 16 |
| 9 | | | | 72 |
| 10 | 0.27508 | | | 14 |
| 11 | | 0.82963 | 4 | |
| 12 | | | | |
| 13 | 0.20323 | | | |
| 14 | 0.03411 | 0.82765 | | 28 |
| 15 | 0.20733 | | 20 | |
| | | 0.52755 | 22 | 41 |
| 16 | 0.02723 | | | |
| 17 | 0.02330 | 0.32728 | 17 | |
| 18 | 0.09698 | | 11 | |
| 19 | | | | |
| 20 | | 0.82697 | 1 | |
| 21 | | 0.88811 | 43 | |
| 22 | | 0.80976 | a3 | |
| 23 | | 0.82911 | 27 | |
| 24 | | 0.41924 | 11 | |
| 25 | 0.02537 | | | |
| 26 | | 0.20429 | 25 | |
| 27 | 0.02011 | | | |

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| Rank | First Group Values | Second Group Values | First Group turn sg. | Second Group turn sg. |
|---|---|---|---|---|
| 32 | 0.02530 | | | |
| 33 | | 0.02050 | 65 | 63 |
| 34 | | 0.02560 | | 41 |
| 35 | | 0.02450 | 21 | 2 |
| 36 | | 0.03436 | 7 | 3 |
| 37 | | | | 27 |
| 38 | 0.02472 | | | |
| 39 | | 0.02530 | 17 | 79 |
| 40 | | | 13 | |
| 41 | | 0.02191 | 13 | |
| 42 | | | 11 | 1 |
| 43 | 0.02250 | | | |
| 44 | | 0.02197 | 51 | |
| 45 | | | 31 | |
| 46 | 0.02235 | | | |
| 47 | | 0.02354 | 45 | |
| 48 | | 0.02324 | 3 | |
| 49 | | 0.02302 | 61 | |
| 50 | 0.02236 | | 5 | 61 |
| 51 | | 0.02168 | 5 | |
| 52 | 0.02240 | | | |
| 53 | | 0.02146 | 29 | |
| 54 | | 0.02240 | | |
| 55 | | 0.02140 | 39 | |
| 56 | | 0.02306 | 23 | 58 |
| 57 | | 0.02052 | | 24 |
| 58 | | 0.02063 | | 22 |
| 59 | | 0.02008 | | 52 |
| 60 | 0.02061 | | | 16 |
| 61 | 0.02161 | | 51 | |
| 62 | | 0.01978 | 34 | 15 |
| 63 | | | 14 | |
| 64 | | | 81 | |
| 65 | 0.02054 | | 14 | |

| | First Value | Second Alpha Value | Third Row No. | Item No. |
|---|---|---|---|---|
| 78 | | | | 16 |
| 79 | | | | 33 |
| 80 | | | | 23 |
| 81 | 0.8156 | | | |
| 82 | | 0.81527 | 31 | 8 |
| 83 | | | | |
| 84 | 0.6198 | | | |
| 85 | | 0.81196 | | 44 |
| 86 | | | 51 | |
| 87 | 0.6199 | | | |
| 88 | 0.81217 | | | |
| 89 | | 0.81714 | | 65 |
| 90 | | 0.81714 | | 66 |
| 91 | | 0.81714 | | 72 |
| 92 | 0.81712 | | | |
| 93 | 0.81498 | | 55 | 32 |
| 94 | 0.81497 | | | |
| 95 | 0.81694 | | | |
| 96 | 0.81656 | | | 44 |
| 97 | 0.81563 | | | |
| 98 | | 0.82122 | | 67 |
| 99 | | 0.81563 | | 16 |
| 100 | | 0.81593 | | 46 |
| 101 | | 0.81586 | 30 | 36 |
| 102 | 0.82323 | 0.81578 | | |
| 103 | 0.81440 | 0.81436 | | 12 |
| 104 | 0.81415 | | | 14 |
| 105 | | 0.81418 | | 82 |
| 106 | | 0.81417 | | 83 |
| 107 | | 0.81416 | | 85 |
| 108 | 0.81399 | | | |
| 109 | | 0.81235 | 17 | 21 |
| 110 | | 0.81105 | | |
| 111 | | 0.81345 | | 81 |
| 112 | | 0.81285 | | 83 |
| 113 | | 0.81237 | | 85 |
| 114 | | 0.81215 | | 78 |
| 115 | | 0.82217 | | 79 |
| 116 | | 0.81223 | | 4 |
| 117 | | 0.81351 | | 38 |
| 118 | | 0.81283 | | 16 |
| 119 | | 0.81230 | | 14 |
| 120 | | 0.82123 | | 82 |
| 121 | | 0.81016 | | 58 |
| 122 | | 0.81013 | | 56 |
| 123 | | 0.81014 | | 56 |
| 124 | | 0.81214 | | 16 |

| Rank | First Group Value | Second Group Value | First Group Item No. | Second Group Item No. |
|------|------|------|------|------|
| 125 | | 0.01221 | | 8 |
| 126 | | 0.01173 | | 80 |
| 127 | | 0.01072 | | 70 |
| 128 | | 0.01041 | | 19 |
| 129 | | 0.01044 | | 93 |
| 130 | | 0.01037 | | 23 |
| 131 | | 0.01016 | | 77 |
| 132 | | 0.00999 | | 67 |
| 133 | | 0.00980 | | 78 |
| 134 | | 0.00940 | 8 | 7 |
| 135 | | 0.00931 | | 74 |
| 136 | 0.03765 | 0.00880 | 42 | 5 |
| 137 | 0.03769 | | | 60 |
| 138 | | 0.03516 | | 2 |
| 139 | | 0.04866 | | 34 |
| 140 | | 0.08024 | | |
| 142 | | -0.02117 | | |

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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Professor of Education

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John W. Sanford
Assistant Professor of Education

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Thomas W. Cole, Sr.
Professor in Industrial Administration and Dean of Academic Affairs for Instructional Services

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Associate Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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